

**Notice of Allowability**

Application No.

10/698,976

Examiner

SIU M. LEE

Applicant(s)

MAULIK ET AL.

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 2/1/2008.
2. ☒ The allowed claim(s) is/are 2-16.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other _____   |

## DETAILED ACTION

### *Allowable Subject Matter*

1. Claims 2-16 are allowed.
2. The following is an examiner's statement of reasons for allowance:

(1) Regarding claim 2-9, 11-16:

The present invention describes a transmit line driver adapted to drive a signal over a transmit line, the transmit line driver comprising a digital-to-analog converter (DAC) receiving a digital input and providing at least one analog current output and a conversion circuitry adapted for coupling between the DAC and a transformer of the transmit line, the conversion circuitry adapted to convert the analog current output to a signal to be transmitted over the transmit line via the transformer, wherein the conversion circuitry is reconfigurable such that the transmit driver is capable of operating in at least one current mode and at least one voltage mode depending on at least one characteristic of the transmit line, wherein the at least one current mode includes a first current mode, wherein when the transmit driver is operating in the first current mode, the conversion circuitry is configured to directly connect the at least one analog current output provided by the DAC to the transformer. The closest prior art Chan (US 6,389,077 B1) discloses a adaptively configurable class-A/class-B transmit DAC for transceiver emission and power consumption control but fail to disclose a conversion circuitry that is configurable such that the transmit driver is capable of operating in at least one current mode and at least one voltage mode depending on at

Art Unit: 2611

least one characteristic of the transmit line and wherein the at least one current mode includes a first current mode, wherein when the transmit driver is operating in the first current mode, the conversion circuitry is configured to directly connect the at least one analog current output provided by the DAC to the transformer. This distinct feature has been added to independent claim 2, thus rendering claims 2-9, 11-16 allowable.

(2) Regarding claim 10:

The present invention describes a transmit line driver adapted to drive a signal over a transmit line, the transmit line driver comprising a digital-to-analog converter (DAC) receiving a digital input and providing at least one analog current output; and conversion circuitry adapted for coupling between the DAC and a transformer of the transmit line, the conversion circuitry adapted to convert the analog current output to a signal to be transmitted over the transmit line via the transformer, wherein the conversion circuitry is reconfigurable such that the transmit driver is capable of operating in at least one current mode and at least one voltage mode depending on at least one characteristic of the transmit line, wherein the conversion circuit comprises first and second current mirrors, first and second resistors, first and second bipolar transistors, coupled between the DAC and the transformer, and wherein when the line driver operates in the at least one voltage mode, the conversion circuit connects at least one of the first and second bipolar transistors to the transformer. The closest prior art Chan (US 6,389,077 B1) discloses a similar system but fail to disclose wherein the conversion circuit comprises first and second current mirrors, first and second resistors, first and second bipolar transistors, coupled between

Art Unit: 2611

the DAC and the transformer, and wherein when the line driver operates in the at least one voltage mode, the conversion circuit connects at least one of the first and second bipolar transistors to the transformer. This distinct feature has been added to the independent claim 10, thus rendering claim 10 allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

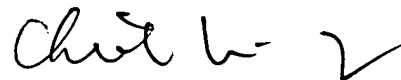
Any inquiry concerning this communication or earlier communications from the examiner should be directed to SIU M. LEE whose telephone number is (571)270-1083. The examiner can normally be reached on Mon-Fri, 7:30-4:00 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Siu M Lee  
Examiner  
Art Unit 2611  
2/21/2008



CHIEH M. FAN  
SUPERVISORY PATENT EXAMINER